DOCUMENT RESUME

ED 209 897 EC 140 617

AUTHOR Garrison, Wayne M.; And Others
TITLE Deafness and Self-Disclosure: Some Problems in Interpreting Self-Concept Measures.
INSTITUTION National Technical Inst. for the Deaf, Rochester, N. Y.
SPONS AGENCY Department of Health, Education, and Welfare, Washington, D.C.
REPORT NO NTID-PS-24
PUB DATE Apr 78
NOTE 64p.; Small, compressed print in tables may not reproduce well. For related documents, see EC 140 611-630.

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS College Students; *Deafness; Higher Education; *Psychological Testing; *Self Concept; *Test Validity
IDENTIFIERS *Tennessee Self Concept Scale

ABSTRACT

The Tennessee Self Concept Scale (TSCS) was administered to 109 students newly enrolled at the National Technical Institute for the Deaf. Consistent with earlier reserch literature, test results indicated that the deaf students had lower levels of self esteem than did the normative hearing population. Subsequent interviews with 30 members of the study sample revealed, however, that many of the deaf students had interpreted the test stimuli peculiarly, thus affecting their scores on the TSCS in a negative manner. It was suggested that questionnaire type measures of affective variables (or psychological well being) which fail to take into consideration the linguistic and experiential deficits of the deaf respondent may create false impressions of psycholcgical maladjustment. A sample copy of the TSCS is appended. (Author/SB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED209897

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
✓ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

DEAFNESS AND SELF-DISCLOSURE: SOME PROBLEMS IN INTERPRETING SELF-CONCEPT MEASURES

Paper Series No. 24

Wayne M. Garrison
Patricia DeCaro
Stephanie Tesch
R. Greg Emerton

April, 1978

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
NTID
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EC140617

NTID's principle goal in doing research is to influence the education, training and career placement of deaf citizens through systematic examination of issues related to deafness. As one part of NTID's total research effort, the Department of Research and Development conducts descriptive and experimental research. Research findings are used in the development of programs and materials in the areas of learning and instruction, personal and social growth, and career development of deaf students. This document was developed in the course of an agreement with the U.S. Department of Health, Education and Welfare.

Deafness and Self-Disclosure: Some Problems in Interpreting Self-Concept Measures

Wayne M. Garrison, Patricia DeCaro
Stephanie Tesch, and R. Greg Emerton

National Technical Institute for the Deaf
Rochester Institute of Technology

Abstract

The Tennessee Self Concept Scale (TSCS: Fitts, 1965) was administered to a sample of 109 students newly enrolled at the National Technical Institute for the Deaf. Consistent with earlier research literature, test results indicated that the deaf students had lower levels of self-esteem than did the normative hearing population. Subsequent interviews with 30 members of the study sample revealed, however, that many of the deaf students had interpreted the test stimuli peculiarly, thus affecting their scores on the TSCS in a negative manner. It was suggested that questionnaire-type measures of affective variables (or psychological well-being) which fail to take into consideration the linguistic and experiential deficits of the deaf respondent may create false impressions of psychological maladjustment.

Deafness and Self-Disclosure: Some Problems in Interpreting Self-Concept Measures

Wayne M. Garrison, Patricia DeCaro,
Stephanie Tesch, and R. Greg Emerton

National Technical Institute for the Deaf
Rochester Institute of Technology

Research interest in the role of the self-concept in explaining the mechanisms of behavior very likely began with the work of William James (1890). Since that time, writing and research concerning the self have increased at a rapid rate. Yet, studies of the impact of deafness on the development of personality in general, and self-concept in particular, have produced findings which remain unclear.

According to symbolic interaction theory, the development of knowledge concerning the self is dependent upon interaction and experiences with others, which provide information in the form of feedback and expectations regarding one's self (Manis & Meltzer, 1972; Sotomayer, 1977). Especially in terms of linguistic factors, Myklebust (1960) maintained that deafness imposes on experience by limiting interaction with and feedback from the environment. Consequently, it may be reasoned that the deaf individual's perceptions of him- or herself may be restricted due to information loss.

Following Mead's (1934) formulation that the organization of experience through language is necessary for the development of the self-image, Craig (1965) provided some evidence that deaf children may have difficulty in presenting accurate perceptions of themselves. Specifically, Craig compared self-ratings on a sociometric task with the ratings given by peers in groups of 9 1/2- to 12-year-old deaf and hearing children. The deaf children were found to be significantly less accurate than hearing children in their perceptions of themselves. In particular, the deaf individuals studied tended to perceive themselves more favorably than did their hearing counterparts. Craig's (1965) finding of the tendency toward inflated self-regard was consistent with data from an earlier investigation by Brunschwig (1936), which reported a more positive self-image among the deaf than among the hearing children studied.

Other research focusing on the experiential factors associated with deafness and their consequences for self-concept development has suggested that deaf persons may hold negative perceptions of themselves. Meadow (1968) reported that deaf children from homes with deaf parents and "positive" family climate were more accepting and confident of themselves than were children of less accepting hearing parents and "lower" family climate. Hence, the quality of interaction between self and others was viewed as a mediator in the development of the self-concept. Sussman (1973) provided evidence of a generally negative level of self-regard for a sample of 129 deaf adults residing in the metropolitan New York City area. In this instance, Sussman demonstrated a

significant positive relationship between the deaf individual's attitudes toward him or herself and his/her subjective view of hearing people's attitudes toward deafness and deaf persons. That is, negative perceptions of self frequently were associated with beliefs that hearing persons perceive the deaf in terms of defects, real or imaginary. Finally, in their review of personality research with deaf children, Schuldt and Schuldt (1972) reported evidence of "abnormal" personality characteristics and/or less adequate adjustment among the deaf as compared with their hearing counterparts.

Given the range of findings reported above concerning self-concept levels among the hearing-impaired, and the reliance of many of these findings upon the use of paper-and-pencil assessment techniques, it may be questioned whether the deaf individual has difficulty in developing and maintaining a positive self-concept, or whether disparities in research findings represent an artifact of the testing situation and measurement process. Levine (1960) suggested that the deaf child may tend to attribute very literal meanings to words (e.g., test stimuli), having difficulty in understanding their more abstract connotations. Green and Shepherd (1975), in a study of semantic structure in residential deaf students aged 9 to 17, reported similar results indicating that deaf students had more restricted semantic systems than did their normal hearing counterparts. That is, the deaf subjects tested appeared to be more restricted to making only concrete semantic judgments while the hearing children, as early as seven years of age, were more capable of dealing with abstract judgments. Blanton and Nunnally (1964) also found that deaf young persons used fewer evaluational concepts (preferring

greater concreteness in their responses) in a word association measure designed to elicit attitudes toward self than did hearing respondents. Moreover, deaf children tended to describe themselves and their parents less favorably than did hearing children.

In relation to self-concept development, some evidence has now accumulated to suggest that the linguistic limitations of the deaf individual may hinder the development of understanding of one's self and others (Levine, 1956, 1960; Lewis, 1968; Myklebust, 1960). Hence, it has been suggested that limitations in the use of language may produce varying degrees of personality constriction. However, questions remain as to whether standardized affective measures enable the deaf individual to accurately present him- or herself. More importantly, the bases for certain of the deaf individual's responses to test stimuli are not known. This study sought to address these two issues.

STUDY 1

Purpose

The purposes of this study were: (1) to investigate the levels of self-concept in a sample of students entering the National Technical Institute for the Deaf (NTID); and (2) to examine the stability of student responses on a self-concept questionnaire over a period of two weeks.

Examinee Population

The primary sample for this study consisted of 109 (59 male and 50 female) students entering NTID during the fall of 1977. Students were sampled randomly from a larger population of new enrollees participating in NTID's summer vestibule program. An availability sample of 19 faculty/

staff persons at NTID was used also for purposes of comparison on the self-concept measures obtained.

Instrumentation

The Tennessee Self Concept Scale (TSCS: Fitts, 1965) was used in this study as a measure of self-regard. The TSCS consists of 100 self-referent statements to which the examinee responds on a five-point rating scale extending from "completely true" to "completely false" in its published form. However, in the present study, scale point descriptors including the words "completely" and "mostly" were substituted with the sign-related expressions "always" and "almost always", respectively.

Ten of the items comprising the TSCS were taken from the MMPI Lie Scale and constitute the Self Criticism Score which is a measure of overt defensiveness. The remaining 90 items were drawn from a large pool of self-descriptive statements as conforming to the classification scheme developed by Fitts (1965). Fitts' conceptual scheme for the description of the self-concept is illustrated in the form of a 3 x 5 matrix, with three internal referents constituting one of the dimensions and five categories of external referents making up the second dimension. Figure 1 illustrates the resulting scheme including brief descriptions of the test categories. Six items (three positive and three negative in the directionality of their scoring) are contained within each of the 15 intersecting categories (e.g., Identity-Physical Self or Behavior-Family Self).

In addition to the Self Criticism Score and scores obtained from the eight major areas of self-regard (i.e., Rows and Columns) given in Figure 1, the TSCS yields scores pertaining to:

EXTERNAL REFERENTS

INTERNAL REFERENTS

In terms of:	Column A Physical Self	Column B Moral-Ethical Self	Column C Personal Self	Column D Family Self	Column E Social Self
Row 1 Identity			WHAT HE IS		
Row 2 Self-Satisfaction		HOW HE ACCEPTS HIMSELF			
Row 3 Behavior			HOW HE ACTS		

Figure 1. How the individual perceives himself (Fitts, 1965)

1. Total self-esteem.
2. Variability, or inconsistency, from one area of self-perception to another.
3. Distribution of item responses across the five-point rating categories (differentiation of the self).
4. Conflict or differences in responses to positively and negatively stated items.
5. Psychological maladjustment patterns resembling those of various groups encountered in a clinical environment.

Reliability and validity data for the TSCS were reported by Fitts (1965). The original standardization group from which the norms were developed was comprised of 626 hearing persons from widely differing parts of the country, ranging in age from 12 to 68. The sexes were represented approximately equally. Both black and white subjects were utilized and the norm group included representatives of many social, economic and educational levels (from 6th grade through the Ph.D. degree).

Reliability estimates reported by Fitts (1965) were based on the test-retest of 60 hearing college students over a two-week period. A summary of the reliability estimates reported by Fitts includes: .92 for total self-regard; from .88 to .91 for rows in the 3 x 5 matrix; and coefficients ranging from .85 to .90 for columns in the matrix.

Research offered in support of the validity of the TSCS uses many groups of persons, including but not limited to neuropsychiatric patients, delinquents, and children. Validity procedures reported in the Manual (Fitts, 1965) were of four types: (1) content validity, (2) discrimination

between groups, (3) correlations with other personality measures, and (4) personality changes under particular conditions. The TSCS was reviewed rather thoroughly by Crites (1965), who concluded: "...the initial data on the Scale's psychometric attributes indicate that it 'measures up' by traditional criteria rather well" (p. 331).

Since the original development of the TSCS by Fitts (1965), over 1,000 research studies reporting its use have appeared in the professional literature, many of which have been directed toward an elucidation of its validity and clinical applications. While the validity of the TSCS cannot be simply assumed, the growing body of evidence on the validity of the instrument constituted the basis for its selection in the present study as a measure of reported self-concept. A copy of the instrument used in this study is contained in the appendix.

Procedure

The TSCS was administered initially in a group testing situation to 109 deaf students. From this group, 87 students returned for a retest following a two-week interval.

During each of the testings, proctors skilled in manual communication circulated among the respondents answering questions and attempting to clarify concepts and vocabulary not understood by individual examinees. A pilot study of the ease of administration of the TSCS prior to testing had revealed a number of words contained in the test stimuli which were not familiar to deaf respondents. In view of this situation, media were prepared in advance of the actual testing listing difficult words or concepts, some synonyms, and sign-related expressions or brief explanations.

Results and Discussion

Profile Interpretation (1)

Using the response data obtained from the 109 deaf students initially tested with the TSCS, scale scores and group statistics were computed for each of the 28 score categories designated in the Manual (Fitts, 1965). For an extended discussion of the development and psychological interpretation of the various score categories, the reader is referred to the Manual.

Table 1 presents the means and standard deviations resulting from analysis of the first administration test data, together with normative data from Fitts' original standardization sample. The t-statistics reported in the last column of Table 1 indicate statistically significant differences between the means obtained from the deaf population and those reported for the standardization group on 22 of the 28 score categories. Where variances between the two comparison groups differed, computed t's were tested for significance using the formula developed by Cochran and Cox (1957).

Figure 2 illustrates the profile resulting from a plot of the group means contained in Table 1 for the deaf respondents. The reader should note that profile points falling outside of the upper and lower limits (red lines) established by Fitts (1965) generally reflect extreme deviance from the norm group.

A clinical evaluation of the data contained in Table 1 (illustrated in Figure 2) suggests that the total level of self-esteem among the deaf students tested tends to be low (approaching the lower limit specified on the Profile Sheet). This pattern of low self-esteem is substantiated further in all of the Row and Column sub-scores constituting the Total

Table 1

Means and Standard Deviations for 28

Score Categories on the TSCS

Score Category	Deaf Sample (n = 109)		Normative Hearing Sample[a] (n = 626)		
	Mean	SD	Mean	SD	t[b]
Self Criticism	30.19	4.32	35.54	6.70	- 8.04
T/F Ratio	1.57	.68	1.03	.29	13.95
Net Conflict	13.47	19.99	-4.91	13.01	12.42
Total Conflict	40.79	10.57	30.10	8.21	11.98
Total Positive	320.07	24.39	345.57	30.70	- 8.23
Identity	116.88	10.90	127.10	9.96	- 9.75
Satisfaction	98.72	9.49	103.67	13.79	- 3.60
Behavior	104.47	8.80	115.01	11.22	- 9.32
Physical Self	67.77	5.79	71.78	7.67	- 5.20
Moral-Ethical Self	61.29	6.65	70.33	8.70	-10.33
Personal Self	65.55	6.23	64.55	7.41	1.33 n.s.
Family Self	63.50	6.28	70.83	8.43	- 8.66
Social Self	61.95	6.86	68.14	7.86	- 7.72
Total Variability	47.80	10.19	48.53	12.42	- .58 n.s.
Column V	28.38	7.04	29.03	9.12	- .71 n.s.
Row V	19.42	5.20	19.60	5.76	- .30 n.s.
Distribution	102.82	25.30	120.44	24.19	- 6.97
5	16.49	11.11	18.11	9.24	- 1.64 n.s.
4	25.27	9.30	24.36	7.55	1.11 n.s.
3	28.23	11.15	18.03	8.89	10.62
2	15.46	6.76	18.85	7.99	- 4.18
1	14.56	7.63	20.63	9.01	- 6.63
Defensive Positive	60.51	9.39	54.40	12.38	4.91
General Maladjustment (inverse)	88.84	7.93	98.80	9.15	-10.68
Psychosis	60.65	5.93	46.10	6.49	21.87
Personality Disorder (inverse)	64.57	7.27	76.39	11.72	-10.19
Neurosis (inverse)	82.03	9.77	84.31	11.10	- 2.02
Personality Integration	8.18	3.05	10.42	3.88	- 5.72

[a]Reproduced from the test Manual (Fitts, 1965).

[b]All t-statistics reported in this column are significant at $p < .05$ unless designated n.s.

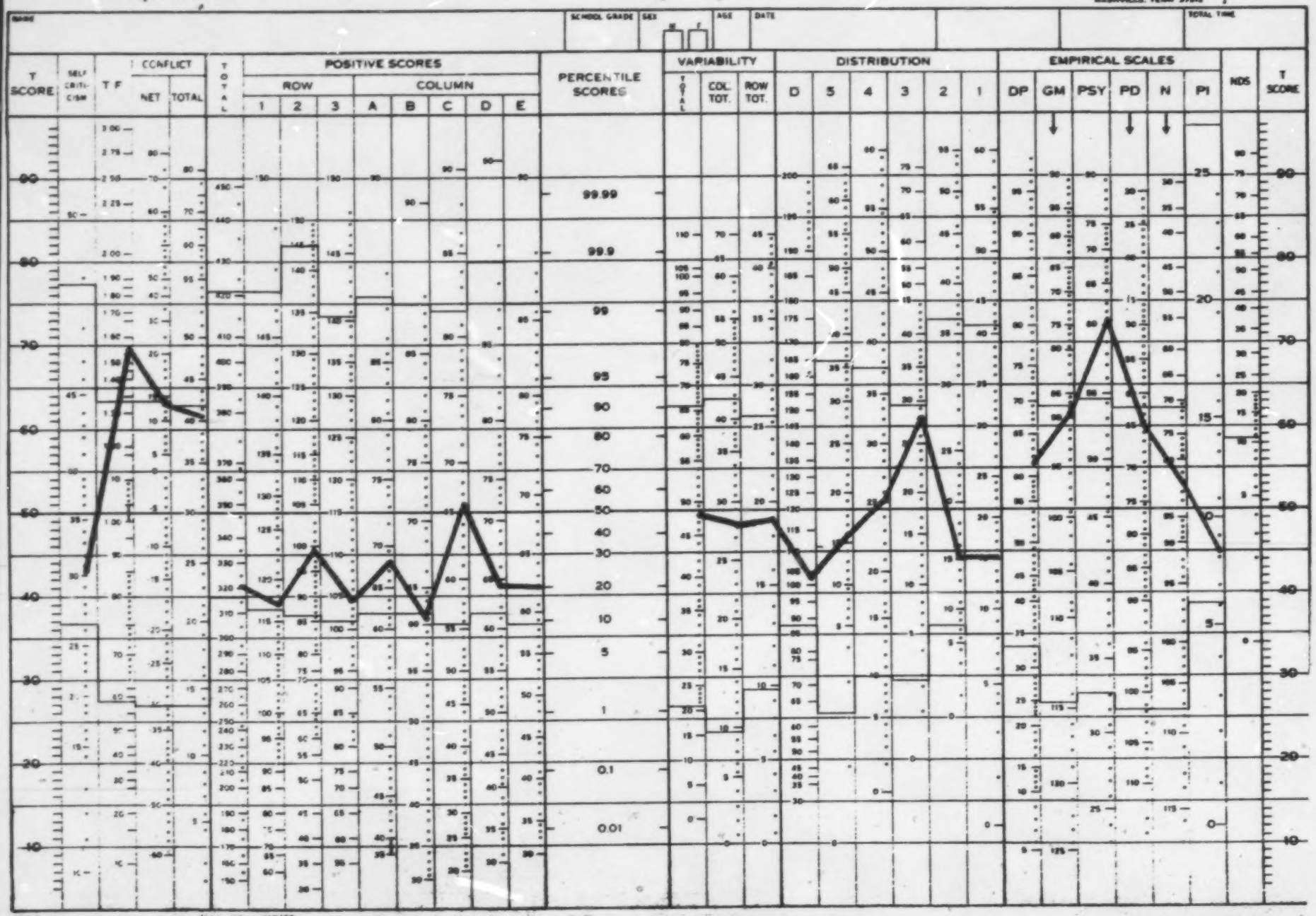


Figure 2. Profile of mean scores from 109 students entering MTID during the fall of 1977.

Positive Score, except for Column "C" (Personal Self Score). This particular score reflects the individual's sense of personal worth, adequacy as a person, and evaluation of his/her personality apart from his or her body and relationships with others.

The variability scores (Total, Column and Row) reflect consistency among the areas of self-perception assessed and do not differ statistically from the normative data provided by Fitts (1965). This finding is consistent with the pattern of results discussed above, in that persons with a generally negative level of self-esteem may tend to be consistent in their negative evaluations of themselves in many aspects of self-perception.

The distribution scores indicate a prevalence of "3" responses (the neutral category on the five-point rating scale to which the examinees responded). This finding is suggestive of uncertainty and/or noncommital in the self-perceptions reported by the deaf. However, some evidence also is provided for guardedness or defensive distortion (i.e., low Self Criticism Score), in which case self-esteem scores may be artificially inflated for the group.

The True/False Ratio is a measure of response set or bias and, in this case, indicates the deaf subject's tendency to agree more than to disagree with test stimuli regardless of content. However, since half of the items are positive in content and half are negative, this acquiescence tendency has the effect of introducing conflict into the deaf individual's presentation of himself. The conflict scores (Net and Total) indicate confusion, contradiction and general conflict in self-perceptions. This pattern is characteristic of many groups of disturbed individuals (Fitts, 1965).

Finally, a comparison of group means for the deaf and standardization populations on each of the six empirical scales revealed statistically significant differences in each case. The six empirical scales were derived by item analysis, with the resulting selection of those items which best differentiated one group of subjects from all others tested (Fitts, 1965). These groups were designated as follows:

Group	Size
Norm group	626
Psychotic group (Psy)	100
Neurotic group (N)	100
Personality disorder group (PD)	100
Defensive positive group (DP)	100
Personality integration group (PI)	75

The general impression which emerges from analysis of the means obtained for the deaf population with respect to the empirical scales is one of psychological distress or maladjustment. In particular, the spike observed on the Psy scale would indicate a response pattern similar to that obtained from psychotic patients. Such an interpretation must be tempered, however, with the findings discussed earlier regarding response bias, uncertainty and confusion or conflict within the areas of self-perception assessed.

Profile Interpretation (2)

Using an availability sample of 19 faculty/staff persons at NTID, comparisons with the deaf respondents were also made on the means obtained for each of the 28 score categories in the TSCS. Figure 3 illustrates this comparison in profile form. The green profile represents

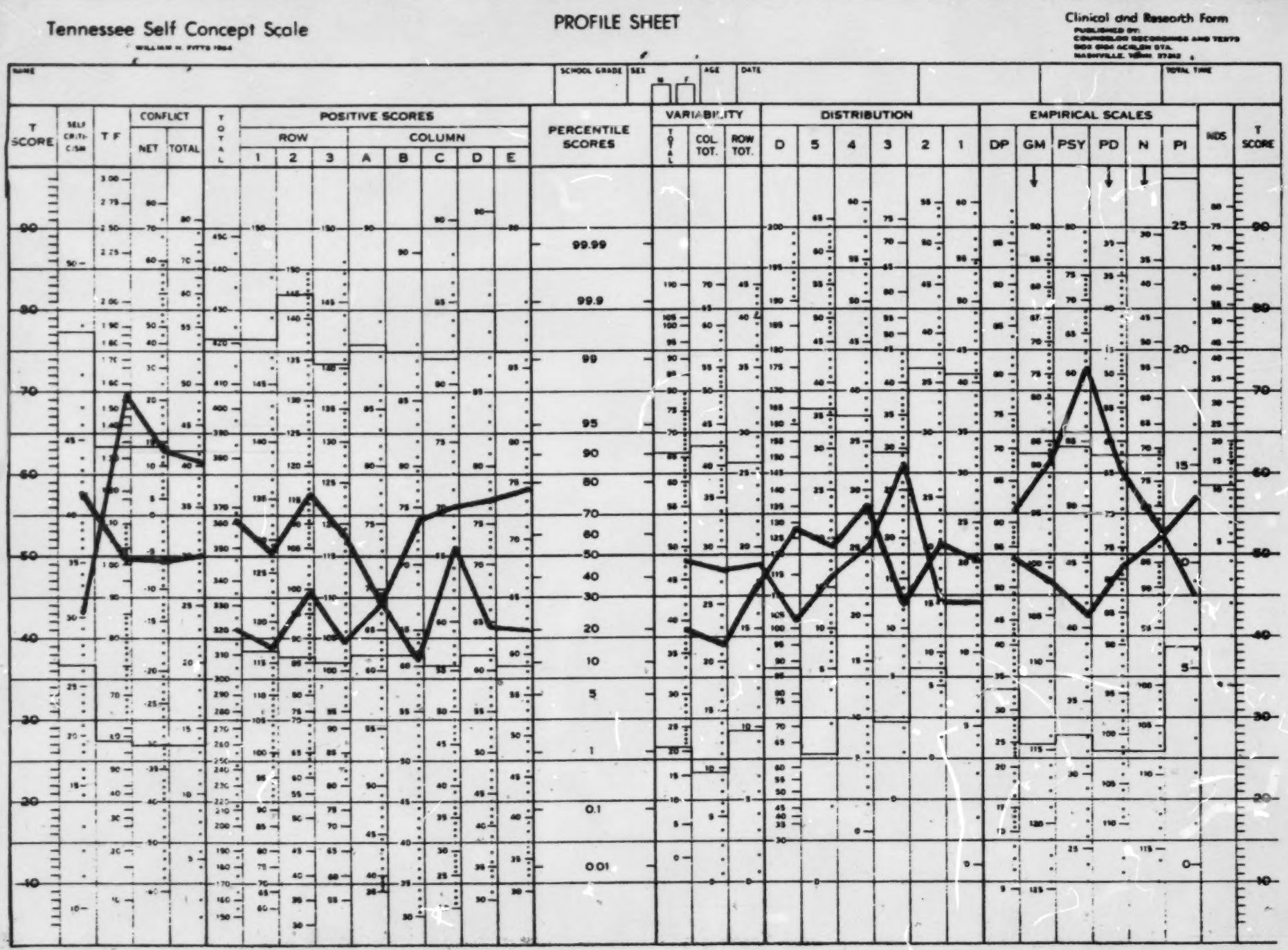


Figure 3. Profile comparison between NTID student group (blue, n=109) and faculty/staff group (red, n=19).

the deaf population and the red profile represents the NTID faculty/staff sample of respondents.

While the comments in the previous section pertinent to a clinical evaluation of the profile for deaf respondents remain unaltered here, it is interesting to note the even wider differences in profile comparisons between students and faculty in a common environment. One may note, for example, the greater disparity in total levels of self-esteem, as well as on the variables of Identity, Satisfaction, and Behavioral Self (Rows 1, 2, and 3). The "Column" scores also show greater contrast and, except for the Physical Self Score, are always higher for the faculty group than for the student group.

The distribution scores suggest a greater clarity and definiteness of knowing who and what one is on the part of the faculty members. Moreover, faculty members tended to be more critical of themselves and showed little conflict or contradiction within any particular area of self-perception.

The most striking feature of the profile comparisons occurs with respect to the six empirical scales. In this case, one may note the almost "flip-flop" nature of the two profiles. Whereas the deaf population was described earlier as bearing some similarities to psychotic patients, even more pronounced differences on the Psy variable are evident in the present comparison. This, and other findings discussed above, naturally raise questions as to the psychological adjustment of the deaf individual and/or the validity of our measuring devices.

Reliability and Comprehension Analyses

Table 2 presents the stability coefficients resulting from the test-retest correlations of examinees' scores on each of the 28 subscales comprising the TSCS. For comparison with the reliability estimates reported in the Manual, the second column of Table 2 reproduces data reported by Fitts (1965) based upon the test-retest of 60 hearing college students over a two-week period.

Examination of the data contained in Table 2 clearly indicates a lesser degree of response stability for the deaf students tested than was evidenced in the standardization situation. The coefficients obtained for the deaf population are consistently lower than those reported for the hearing group on 25 of the 28 subscales. For two of the remaining subscales (Net Conflict and Row Variability), the coefficients are the same. Only on the scale which summarizes the use of the "3" response category (the neutral position on the 5-point rating scale) does the stability coefficient obtained with the deaf population exceed that obtained with the hearing group. That this same score category also produced the largest coefficient of stability (r = .81) may serve to suggest that the most consistent finding of the test results obtained for the deaf respondents is uncertainty, either about one's self or the test stimuli. Moreover, the magnitudes of the test-retest correlations obtained with the deaf respondents (ranging from .42 to .81) in and of themselves are so low as to raise serious questions regarding the interpretability of the findings.

Recognizing the linguistic limitations of the population directly under investigation, stability analyses of the TSCS data were also

Table 2

Test-Retest Reliability Coefficients for 28

Score Categories on the TSCS

Score Category	Deaf Sample (n = 87)	Normative Hearing Sample[a] (n = 60)
Self Criticism	.56	.75
T/F Ratio	.42	.82
Net Conflict	.74	.74
Total Conflict	.56	.74
Total Positive	.77	.92
Identity	.53	.91
Satisfaction	.74	.88
Behavior	.76	.88
Physical Self	.64	.87
Moral-Ethical Self	.74	.80
Personal Self	.70	.85
Family Self	.67	.89
Social Self	.72	.90
Total Variability	.52	.67
Column V	.49	.73
Row V	.60	.60
Distribution	.81	.89
5	.80	.88
4	.70	.79
3	.81	.77
2	.68	.71
1	.73	.88
Defensive Positive	.72	.93
General Maladjustment	.64	.87
Psychosis	.57	.92
Personality Disorder	.67	.89
Neurosis	.69	.91
Personality Integration	.57	.90

[a]Reproduced from the test Manual (Fitts, 1965).

performed controlling for the variable of "comprehension". Specifically, examinees were classified into upper, middle and lower thirds of the total group (n = 87) on the basis of scores attained on the California Reading Comprehension Test (Tiegs & Clark, 1957). This instrument yields a grade equivalent score ranging from 5.0 to 12.0.

Only the upper and lower thirds of the group were analyzed in order to reduce the problem of misclassification of individuals. The upper third was composed of 28 persons (M = 10.06, SD = .98) and the lower third was composed of 29 persons (M = 6.83, SD = .56). The figures in parentheses above represent mean reading level abilities expressed in the grade equivalent metric. Table 3 presents the stability coefficients computed for these two groups.

Examination of the data contained in Table 3 indicates a rather consistent increase in test-retest reliability for the upper third of the respondents over the coefficients presented earlier for the entire group (increases in 26 of the 28 score categories). Moreover, the reliability indices reported for the lower third of the group generally are lower than those reported for the group as a whole (in all but five of the score categories). Differences between the reliability coefficients obtained with the upper and lower third groups were tested for significance using Fisher's r to Z transformation. The resulting Z differences are reported in Table 3. Statistical significance ($p < .05$) was found in 12 of the 28 comparisons. In general, it may be concluded from these analyses that the deaf individual's ability to present him or herself in a consistently accurate manner over time is influenced by the linguistic problems he or she may encounter in a paper-and-pencil testing situation.

Table 3

Stability Coefficients for "High" and "Low"

Comprehension Groups

Score Category	Lower Third of Respondents (n = 29)	Upper Third of Respondents (n = 28)	z-Difference
Self Criticism	.52	.66	1.08
T/F Ratio	.26	.51	1.48
Net Conflict	.62	.86	2.84*
Total Conflict	.24	.75	3.64*
Total Positive	.72	.82	1.25
Identity	.24	.81	4.41*
Satisfaction	.64	.76	1.19
Behavior	.80	.77	.40
Physical Self	.60	.81	2.17*
Moral-Ethical Self	.69	.72	.30
Personal Self	.64	.86	2.67*
Family Self	.52	.84	3.22*
Social Self	.54	.76	1.96*
Total Variability	.43	.64	1.49
Column V	.36	.68	2.26*
Row V	.52	.48	.27
Distribution	.86	.89	.65
5	.85	.89	.83
4	.82	.81	.15
3	.78	.90	2.14*
2	.60	.82	2.32*
1	.76	.84	1.12
Defensive Positive	.66	.83	1.98
General Maladjustment	.48	.80	2.88*
Psychosis	.35	.78	3.40*
Personality Disorder	.60	.73	1.18
Neurosis	.67	.83	1.89
Personality Integration	.56	.74	1.59

*$p < .05$

Finally, Table 4 presents the means and standard deviations for each of the TSCS scales corresponding to the classifications of persons as "high" and "low" comprehenders. The last column of Table 4 presents the t-statistics computed from tests between the corresponding means. Figure 4 illustrates the profiles resulting from a plot of the data contained in Table 4.

Examination of the data contained in Table 4 reveals statistically significant differences between "high" and "low" comprehenders on the mean scores computed for all of the major scoring categories in the TSCS (Total Self-Esteem, Rows and Columns), and for all of the empirical scales. Specifically, it may be seen from Figure 4 that persons with a higher degree of comprehension skills consistently presented themselves in a more favorable manner than did deaf individuals with lower comprehension abilities. Nevertheless, the configurations of the two profiles bear general resemblance, differing most in the extent of their respective elevations.

The spikes observed for each of the two profiles occur on the same subscales (True-False, Psychotic). It would appear that regardless of tested level of English comprehension, the deaf individuals in this study tended to agree with the test stimuli more frequently than they disagreed. This acquiescence tendency, however, has the effect of introducing conflict into the picture that one presents of him- or herself. Thus, the question was raised as to whether the deaf individual may approach such a test as the TSCS in terms of restricted or unique interpretations of item stimuli. The next study sought to address this question, incorporating some of the items included in the Psychotic scale in an extended interview situation.

Table 4

Means and Standard Deviations on 28 TSCS Scales for "High" and "Low" Comprehenders

Score Category	Lower Third[a] (n = 29) Mean	SD	Upper Third[b] (n = 28) Mean	SD	t
Self Criticism	29.28	4.46	30.93	4.08	1.43
T/F Ratio	1.63	.62	1.53	.72	.56
Net Conflict	16.03	19.26	10.86	18.91	1.00
Total Conflict	43.00	10.44	37.14	9.99	2.13*
Total Positive	312.93	24.63	339.14	22.12	4.15**
Identity	114.31	10.61	124.46	10.51	3.56**
Satisfaction	95.79	8.61	105.96	8.07	4.52**
Behavior	102.83	11.11	108.71	7.62	2.30*
Physical Self	66.48	4.97	70.21	6.58	2.36*
Moral-Ethical Self	60.52	5.53	66.25	6.33	3.56**
Personal Self	64.79	6.09	69.18	5.58	2.80**
Family Self	61.83	5.90	67.21	4.50	3.79**
Social Self	59.31	7.69	66.29	5.02	3.75**
Total Variability	48.41	11.43	46.25	7.05	.71
Column V	28.90	7.80	28.39	7.87	.24
Row V	19.52	4.73	17.86	4.49	1.34
Distribution	105.52	28.40	106.57	28.69	.14
5	17.69	13.16	17.14	11.11	.17
4	25.03	10.00	24.89	10.03	.05
3	28.10	11.01	26.54	14.12	.46
2	13.24	5.78	15.46	8.02	1.19
1	15.93	7.61	15.96	8.57	.01
Defensive Positive	59.31	9.22	64.21	8.56	2.04*
General Maladjustment (inverse)	87.48	7.82	94.32	7.34	3.35**
Psychosis	63.24	5.26	57.68	7.14	3.29**
Personality Disorder (inverse)	63.24	8.22	69.64	6.95	3.12**
Neurosis (inverse)	79.07	11.11	87.36	8.65	3.09**
Personality Integration	7.10	2.86	9.14	3.25	2.46*

*$p < .05$
**$p < .01$

[a]Comprehension scores less than or equal to 7.5 (grade equivalent).

[b]Comprehension scores greater than or equal to 8.8.

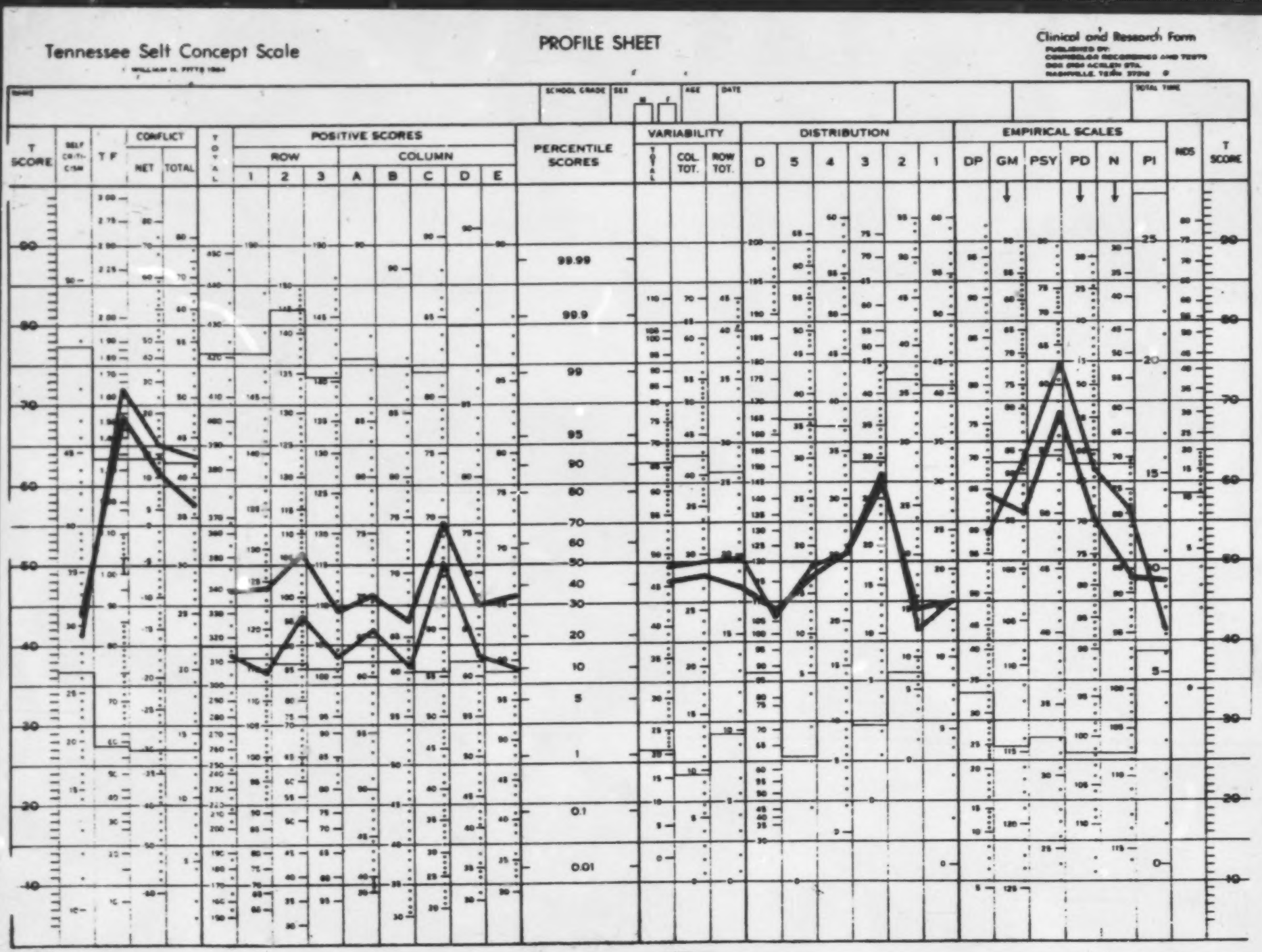


Figure 2. Profile comparison between "high" (green, n=28) and "low" (red, n=29) comprehenders.

STUDY 2

Purpose

Given the general findings of low self-esteem, confusion, and uncertainty in self-perceptions, and the seemingly pathological nature of the group profiles discussed in the preceding study, it was seriously questioned whether the responses of the deaf individuals to test stimuli contained in the TSCS were valid indicators of their self-perceptions. The purpose of this study was to examine possible semantic discrepancies in the deaf individual's understanding of certain of the test stimuli in the TSCS, using an interview technique.

Examinee Population

Approximately three months after the second administration of the TSCS, 30 subjects from the original sample who were available for further participation were interviewed individually. All interviewees had completed the written TSCS twice before. In terms of overall scores on the TSCS, the interview sample appeared to be representative of the original sample of respondents ($n = 109$), particularly on the empirical (clinical) scales of primary interest.

Instrumentation

From the first administration TSCS test data, item analyses revealed 21 of the original 100 items which, on the basis of group means, had been responded to in a manner contrary to social expectation. All of these items with the exception of one (i.e., "I should be more polite to others") are included in the scoring of the various clinical scales. Eight of the 21 discrepant items are included in the 23 items used to compute the Psychotic score.

Recognizing the time limitations of an extended interview situation, the 21-item pool was reduced to a set of 15 items, including the eight Psychotic items as well as other items cutting across each of the clinical scales. The six items eliminated in this process were those with means nearest the keyed response (extremity of the scale = 1 or 5 depending upon the direction of a particular item). To the resulting set of 15 items, five more items were added to make a final set of 20. These five items were selected randomly from the larger set of items which did not reveal discrepant tendencies (i.e., did not have means away from the socially desirable direction). A copy of the final set of test stimuli used during the interviews, together with item means and standard deviations, is presented in Table 5.

Procedure

Utilizing the partial TSCS questionnaire described above (see Table 5), students were interviewed over a period of approximately two weeks in one-hour sessions each. Students had not previously met the interviewer. They were shown the partial questionnaire, reminded that they had completed a larger version of the instrument on two previous occasions, and told that they had been selected for this reason. Specifically, it was explained to the interviewees that the test was being evaluated for future use. Therefore, it was desired that the respondents provide the interviewer with more extensive information bearing on the students' understanding and interpretation of specific test stimuli.

Respondents were told that there were no "right" or "wrong" answers to the TSCS statements. Moreover, confidentiality of their responses

Table 5

Interview Items and Their Means

and Standard Deviations[a]

	Items	Key[b]	Mean	SD
82.	I get along well with other people.	P	3.95	.82
84.	I would rather win than lose in a game.	P	3.68	.98
53.	I don't feel as well as I should.	N	2.40	.97
33.	Once in a while I think of things too bad to talk about.	P	2.77*	.87
34.	Sometimes, when I am not feeling well, I am cross.	P	2.76*	1.05
46.	I should trust my family more.	N	3.92*	1.08
50.	I do not like everyone I know.	P	1.89*	1.08
63.	I should love my family more.	N	4.26*	.91
66.	I ought to get along better with other people.	N	3.87*	1.00
67.	I gossip a little at times.	P	3.03[c]	1.10
80.	I give in to my parents.	N	3.90*	1.05
31.	I am mad at the whole world.	N	1.70	.90
16.	I do not always tell the truth.	P	2.22*	.99
56.	I wish I could be more trustworthy.	N	3.67*	1.02
57.	I shouldn't tell so many lies.	N	3.44*	1.44
92.	I change my mind a lot.	N	3.20*	1.05
37.	I would like to change some parts of my body.	N	2.66	1.31
21.	I am a religious person.	P	2.86*	1.18
40.	I ought to go to church more.	N	3.11*	1.40
65.	I should be more polite to others.	N	3.98*	1.03

*Denotes item mean in the direction opposite that of social desirability.

[a]Item statistics were computed from 109 students tested with the TSCS.

[b]P = Positive direction; N = Negative direction.

[c]This item was marginal with respect to direction.

during the interview was assured. All interview sessions were reverse-interpreted by the interviewer and recorded on tape (sound only) for later analyses.

Following a brief question-and-answer session regarding what the interview session would entail, the interviewees were instructed in the following manner:

1. Read a statement.
2. Select a response from the five-point rating scale.
3. Define the statement using examples.
4. Clarify examples (where necessary).
5. Interviewer explains implications of particular responses (Students may change their responses on the basis of this new information).
6. Try to explain any large discrepancies between interview responses and data provided by respondent on two previous testings.

Clarification questions asked by the interviewer were intended to obtain detailed information about the personal meanings attributed to test items and, generally, took the following forms:

1. How can you tell if someone (feels, is) _____?
2. How do you (do, act) when you (are, feel) _____?
3. How do you suppose most people (think, feel) _____?
4. Can you guess what percent of others (feel, think) this way?
5. Do you think you are the same as most people? In the middle? Different from others? How so?
6. What percent of the time do you (think, feel, act) this way?

7. Are you generally satisfied with yourself or do you think you need to change in any ways?

8. Your response was _____. This implies _____. Is that what you meant to say?

9. Can you say why you selected number ___ instead of ___ or ___?

10. Do you feel it is okay to (be, feel, do) _____?

11. Is it important to (be, feel) _____?

The above questions were asked and explored for as many of the items as could be accommodated in a one-hour session. In order to gather information on all of the items included in the partial questionnaire, the interview was initiated at different points in the test for different respondents. However, all of the students interviewed responded to a final question (i.e., "Do you like yourself?") and rated themselves on a scale ranging from 1 (negative) to 10 (positive) concerning how good they felt about themselves. A copy of the 10-point pictorial scale used in this instance is contained in the appendix. As with the other test stimuli discussed during the interviews, students were asked to explain why they had rated themselves in the manner observed. Finally, other subjective data recorded by the interviewer included: perceived truthfulness of responses, accuracy of self-ratings, self-other comparisons, and rapport with the interviewer.

Results and Discussion

Reliability of Judges' Ratings

From the information obtained during the interviews regarding particular test items, analyses were performed to determine the extent to which the interviewees' actual interpretations of test stimuli matched

those of three independent hearing judges. For this purpose, three judges listened to the tape-recorded interviews and rated each interviewee's understanding of individual test stimuli using the dichotomous index of zero or one. A rating of one on an item indicated an interpretation and/or definition generally shared by both interviewee and judge. A zero rating indicated lack of agreement.

In order to determine the reliability of this rating system, a two-way analysis of variance was performed on the scores (simple sum of 1's and 0's) of four respondents selected from among the first persons interviewed. All four of the interviewees had responded to a common set of 11 items. The reliability of the three judges ratings taken together was found to be .94 using a methodology developed by Ebel (1951).

Since the actual interview situation for each respondent involved the discussion of differing test stimuli and differing numbers of test items, scores computed for the purpose of examining interviewees' understanding of items were expressed as percentages of items with "appropriate" interpretations. Therefore, a separate analysis of variance was performed on the percent agreement scores given by the same three judges to five interviewees who had responded to common and to different test items. The resulting reliability coefficient was found to be .93, comparable to that obtained in the former analysis. On the basis of these findings, it was concluded that the judges did not differ significantly among themselves in their scoring of the respondents.

Finally, to test the validity of the percent scoring method described above against a more standardized method of assessing "comprehension" abilities, a correlation was computed between respondents' percent

scores and their scores on the California Reading Comprehension Test. The resulting coefficient was found to be .63, indicating a moderate degree of congruence between the two measures. However, since the tasks required of an examinee under the two testing conditions in question (multiple-choice responding vs. extended self-expression) differ substantively, a correlation coefficient of .63 was considered to be acceptable.

The Basic Data Matrix

From the ratings provided by the three judges, a persons by items data matrix containing 0/1 entries was constructed. In situations where complete agreement among judges was lacking, the consensus of two judges was used to determine the final 0 or 1 rating for a given person on a particular item. Disagreement, however, occurred infrequently, as evidenced by the reliability coefficients presented earlier.

Table 6 presents a listing of the items used as a basis for discussion during the interviews, together with their difficulty estimates. Thus, in the case of the first item (# 82), 82% of the examinees responding to the item were believed to have sufficient knowledge of its meaning, as well as the implications of their respective response choices. A minimum of 13 persons, and a maximum of 24 persons, responded to any item.

Noting the extreme cases, no one interviewed on item 33 adequately understood it, whereas all persons who responded to item 21 were classified as having understood its meaning. Overall, if one were willing to accept a level of 85% comprehension as a satisfactory criterion for inclusion of an item on an affective scale for the deaf, it may be

Table 6

Interview Items and Their Respective

Difficulty Estimates

	Items	n of Persons Responding	Difficulty Estimates
82.	I get along well with other people.	17	.82
84.	I would rather win than lose in a game.	17	.94
53.	I don't feel as well as I should.	14	.29
33.	Once in a while I think of things too bad to talk about.	13	.00
34.	Sometimes, when I am not feeling well, I am cross.	19	.68
46.	I should trust my family more.	19	.26
50.	I do not like everyone I know.	18	.67
63.	I should love my family more.	17	.65
66.	I ought to get along better with other people.	16	.31
67.	I gossip a little at times.	16	.69
80.	I give in to my parents.	16	.12
31.	I am mad at the whole world.	24	.25
16.	I do not always tell the truth.	23	.91
56.	I wish I could be more trustworthy.	20	.10
57.	I shouldn't tell so many lies.	17	.06
92.	I change my mind a lot.	17	.94
37.	I would like to change some parts of my body.	15	.80
21.	I am a religious person.	13	1.00
40.	I ought to go to church more.	13	.77
65.	I should be more polite to others.	13	.62

$\bar{X}$ = .544
SD = .334

concluded that 80% of the items tested here were not adequately understood by deaf respondents.

The average of the item difficulty estimates is 54.4%. This figure implies that this particular sample of items was difficult for the respondents. In fact, analysis of the percent scores given to individuals revealed a maximum score of 89%. In the other extreme, one individual achieved only 10% understanding.

The above findings clearly call into question the conclusions of low self-esteem evidenced in Study 1. Given the low levels of test reliability obtained in the previously discussed stability analyses, such a conclusion is extremely tenuous. Furthermore, given the findings above regarding item difficulty, it is unlikely that the deaf can be compared legitimately with normal hearing individuals in terms of their relative standing on the variables assessed in the TSCS. Therefore, an understanding of the problems posed by paper-and-pencil testing with the deaf would be useful in future research on affective characteristics.

Problems in English Usage

The problems encountered by the interviewees in responding to the test stimuli were generally of two types: unfamiliarity with words and phrases, and interpretations which differed from the more common (accepted) meanings of words, phrases and ideas presented in print. There is little question that these two categories of problems are related. Yet, there were clearly some instances in which students were simply unfamiliar with vocabulary, and other instances in which restricted interpretations of words, phrases and concepts were apparent. Presented below is a summary of the major problems found relating to English usage.

1. Sentences with implied negatives (e.g., "I should love my family more") caused problems for nearly all students. Students frequently failed to discern the negative connotation of this type of item, and, instead, read the item in its positive form (i.e, "I should love my family"). This problem applied to seven of the 20 items used in the interviews.

2. Generally, problems arose in the selection of scale responses where negatives were contained in the test stimuli. This represents the familiar problem of the double negative. For example, the individual who responds to the item "I don't feel as well as I should" with the reply, "Always false" (keyed direction) is really saying that it is not true that he/she does not feel well. In fact, after some exercise in mental gymnastics, the respondent is really saying that he feels as well as he/she should. This type of problem was characteristic of 11 of the 20 interview items.

3. Idiomatic expressions were a source of confusion for virtually all interviewees. Consequently, such expressions as, "I give in", "I get along", and "mad at the whole world" were frequently not understood.

4. Students also experienced difficulties in dealing with test items which failed to explicate a specific referent. For example, in the item "I ought to go to church more", a comparison is not specified (more often, more than my brother, more than who or what?). This problem was manifested in nine of the 20 items and overlaps with problem category #1 above.

5. The translation of written English into manual forms of expression was not always simple and direct. For example, the word "cross" was intended to mean "irritated". However, deaf students sometimes equated the word "cross" with the letter X, or attributed religious significance to the word. The word "mad" also was taken to mean either "angry" or "crazy". If a student did not recognize from context the meaning intended, he/she either responded to a different stimulus or simply didn't understand the original stimulus.

In all, one or more of the conditions described above affected 14 of the 20 items used in the interviews, making this sample of items very difficult for students. An evaluation of the entire 100-item instrument revealed at least 33 items which could be classified as falling into one or more of the first four of the above problem categories. Coupled with other forms of vocabulary problems not specifically discussed herein, it is, therefore, not surprising that individuals possessing weak English skills may have experienced difficulty in responding only to the written form of the TSCS.

Restricted Interpretations

Summarized below are some of the common variations in interpretation of test items observed during the interviews. While other more specific problems arose in individual cases, the following is provided as a general analysis of the interview data.

1. There was a tendency to say that one could <u>not</u> trust or "get along with" a person who was not <u>well-known</u> to the respondent. Situations (hence, items) which involved strangers in particular did not lend themselves well to "getting along", "trusting", or "knowing" a person.

Thus, students' responses to some questions were based upon a very limited sphere of people. Perhaps, this reflects the relative isolation of many deaf persons owing to communication difficulties. This situation applied to approximately 25% of the items used during the interviews.

2. In many cases students' definitions of sentences or words was limited to a single context. For example, "I don't feel as well as I should" was interpreted in terms of either the physical or the psychological domain, rarely in terms of total well-being. The phrase, "give in to parents" was restricted to compliance in relation to household chores. Changing one's mind also was limited to changes that did not involve other persons (e.g., change of major, of furniture, of techniques). Since words acquire breadth of meaning after multiple exposures in varied contexts, the above findings are not surprising. To acquire mastery of definitions requires much varied communication. Considering the problems in communication faced by the deaf individual, the problem of restricted reference appears to genuinely exist.

3. Frequently, it was observed that the subject and object of a sentence were reversed. For example, "I should love my family..." was read, "My family should (or does) love me". For many issues involving family, trust and love were viewed as the direct responsibilities of parents. This may reflect the history of special caring and concern given to handicapped persons by their immediate caretakers.

4. Where test items contained words like "think" or "feel" requiring an internalized process, students read the questions in terms of the directly observable action dimension. Thus, "thinking about bad things" was synonymous with actually doing bad things. "I would like

to..." was interpreted as, "I have done...". Emotional vocabulary (e.g., love, trust) also acquired more concrete, action-oriented explanations than expressions of abstract thinking. This may reflect a lack of "practice" in the use of emotional vocabulary.

5. References in items to specific roles (e.g., the religious person, the polite person) were interpreted by the students in line with social stereotypes. There appeared to be general agreement among the deaf students as to social expectations. This resulted in responses based upon narrow, limited standards. Again, concepts acquire breadth of meaning from exposure to many persons and situations.

There were numerous and varied interpretations of the specific test stimuli, all of which are rooted in one's prior experiences. Many deaf individuals have been treated differently than have normal hearing persons as a result of their sensory impairment. The deaf individual's limitations of communication with others, his or her inability to learn many things vicariously through the environment and his/her relations with over-protective authority figures have contributed to a limitation of life experiences. For many deaf persons, this may result in a lack of breadth of knowledge from which to draw and/or to interpret new experiences.

Self-Concept Levels

Given the problems discussed in the preceding two sections with respect to English usage and students' unique interpretations of specific words and concepts, it is clear that the TSCS in its standardized form fails to provide an accurate assessment of the deaf individual's level of self-concept. Figure 5 illustrates the distribution of overall

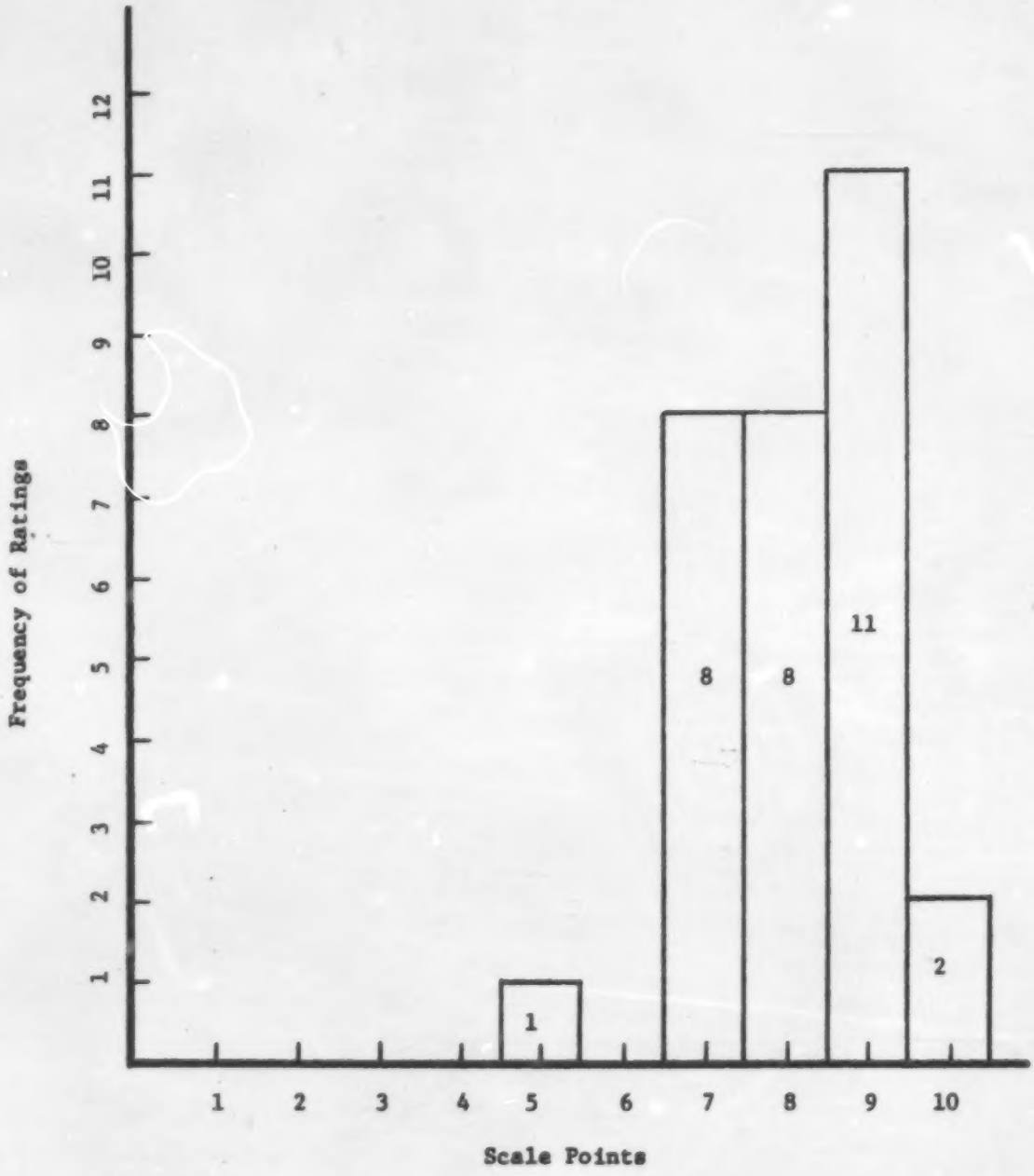


Figure 5. Distribution of Self-Ratings for 30 Deaf Interviewees

self-ratings provided by the 30 interviewees when asked to respond to the question, "How good do you feel about yourself?" (ten-point scale). While no comparable data were obtained from a hearing student sample, it may be seen from Figure 5 that the level of self-regard among the deaf students interviewed was high ($\underline{M} = 8.13$). The correlation between ratings on the ten-point scale and total scores on the TSCS (1st administration) was .47 ($p < .01$).

From the interview discussions and the concomitant revisions to item responses by the interviewees (from the 1st administration), it was possible to partially assess the extent to which interviewees' total scores on the written TSCS changed as a function of extended discussions of the test stimuli. For 27 of the 30 interviewees, total scores increased in the positive direction. For the remaining three respondents, the total TSCS adjusted score differed by only 1 to 3 points downward. For the entire group of 30 respondents, the mean total score on the TSCS changed from 323.87 to 331.80, an average increase of about eight scale points. However, it should be noted that students completed an average of only 11.2 items during the interviews. Therefore, more dramatic shifts in scores would not be expected to occur failing random or confused response patterns during the written test situation. The correlation between the adjusted TSCS scores and the 1-to 10-point scale ratings was .52 ($p < .01$), a statistically insignificant but meaningful increase over the former .47 coefficient.

It was also possible on the basis of the above revised item responses to examine partial changes on the Psy scale, noted earlier as one of the

two extreme scores on the group profile (see Figure 2). Only those persons who had responded to at least six of the eight Psy items used during the interviews were included in this analysis (n = 17). However, their mean on the Psy scale (M = 61.35, SD = 5.44) from the initial TSCS administration was comparable to that computed from all 109 of the respondents (M = 60.65, SD = 5.91).

For 14 of the 17 respondents, the Psy score decreased. However, scoring on this scale is reversed such that lower scores reflect more similarity to the standardization sample. For the remaining three individuals, Psy scores changed from 0 to 2 scale points upward. For the total group of 17 respondents, the mean Psy score changed from 61.35 before adjustment to 55.0 after adjustment. The correlation between the unadjusted Psy score and the percent score used to quantify interviewees' understanding of the test stimuli (see Reliability of Judges' Ratings section) produced a coefficient of -.48 ($p < .05$). This finding suggests that the deaf individual's standing on the Psy variable is probably more the result of linguistic and experiential problems than it is the presence of paranoid tendencies.

In general, the findings of the above analyses suggest that scores on the TSCS in the low ranges of self-esteem may well reflect limited understanding of both the questions posed and the implications of various response choices on the part of the deaf respondent. What was observed for nearly all of the interviewees were changes in item responses in the direction of positive self-esteem as a result of extended discussion. It is to be noted that the interviews were limited to a discussion of

only about 11 items per respondent. Therefore, the entire range of problems posed by an affective inventory may extend beyond those discussed here.

Other Interviewer Perceptions

On the basis of interviewer perceptions, most of the students who participated in the interviews rated themselves high in self-esteem and expressed satisfaction with themselves. The interviewer noted little evidence of deliberate attempts to falsify or distort responses. However, verbal-verbal and verbal-nonverbal discrepancies provided some indication of a lack of self-awareness on the part of some students.

When asked to compare themselves with others on many of the concepts contained in the test stimuli, the interviewer reported a general tendency for the deaf students to perceive themselves like most other people. On some specific issues, deaf students perceived themselves as "better" than others. Upon further discussion, however, "better" usually implied stricter conformity to social customs and mores.

Comparison with others also revealed some misperceptions among the deaf regarding their normal hearing peers. On a behavioral level, the deaf students were not viewed by the interviewer as acting differently than hearing college students on most of the issues discussed. It was suggested that in most situations in which students perceived themselves as different from others, their perceptions were the result of limited experiences and exposure to other people and ideas.

The interviewer concurred with the high level of self-esteem reported by the majority of deaf students. In approximately eight of the 30 cases, the interviewer questioned the validity of the final self-ratings. It was felt in these cases that the students were lacking in personal insight, as evidenced by discrepancies between their expressed feelings and behaviors in the interview setting.

Summary and Conclusions

The purposes of the present two studies were stated earlier in the form of three objectives: (1) to investigate the levels of self-concept in a sample of entering NTID deaf students; (2) to examine the stability of student responses on a self-concept questionnaire over a period of two weeks; and (3) to examine possible semantic discrepancies in the deaf individual's understanding of certain of the test stimuli. The primary sample under investigation was composed of 109 students beginning a course of study at NTID during the fall of 1977. Eighty-seven of these students were retested on the TSCS after a period of two weeks. Thirty students from the primary sample subsequently were interviewed to determine the bases for their responses on the TSCS.

Clinical analyses of the TSCS group data (n = 109) indicated a generally low level of self-esteem among the deaf students tested. This general finding was substantiated further from examination of the means computed for many of the subscale categories of the TSCS. However, some evidence also was obtained suggesting uncertainty, confusion and general conflict in the picture that the deaf individual presented of him or herself. In particular it was noted that the deaf students tended

to agree more than to disagree with the test stimuli regardless of content, even though the TSCS is composed of equal numbers of positively and negatively stated items within each of the categories of self-concept assessed. Finally, the peak score observed on the Psy empirical scale for the group provided an indication of psychological distress among the deaf individuals tested.

Stability analyses of students' responses on the TSCS (n = 87) generally resulted in lower correlations than one might expect for a two-week test-retest interval. Persons with "higher" reading comprehension skills were more consistent in their perceptions of themselves than were persons with "lower" comprehension skills. Notwithstanding, the TSCS presumes only sixth-grade reading ability and all of the students tested possessed at least this level of comprehension.

Persons with higher comprehension skills generally presented themselves more favorably than did persons with lower levels of reading ability. Nonetheless, the resulting TSCS profiles for these separate groups of individuals differed primarily only in the extent of their elevations on the various subscale categories. Moreover, a peak score on the Psy scale remained for both groups.

In view of the results presented above, interviews were conducted with a sample of 30 students to test the validity of the paper-and-pencil approach to assessing self-concept levels among the deaf. Interviewer perceptions and subsequent analyses of the interview data failed to substantiate the finding of low self-esteem among the deaf students interviewed. In fact, some evidence was obtained to suggest

that there may be a tendency toward slightly inflated self-esteem among the deaf. Thus, it was concluded that the deaf individual likely approaches such a test as the TSCS with restricted or unique interpretations of words and concepts, attributable to restricted life experiences. As such, scores on the TSCS in the low ranges of self-esteem may well emphasize the limitations of understanding of both questions posed and the implications of response alternatives.

In a recent article which discussed some of the factors which may be involved in poor English performance of deaf students, Walter (1977) stated:

> While the problem certainly may stem from their inability to handle complex syntactic structures, and their poor vocabulary, it may also be the result of using materials which lie outside their experience (emphasis added).

The present findings support this position. For many deaf individuals, limitations of communication with others and the inability to learn vicariously from the environment through the auditory modality may have resulted in a restricted set of knowledge about one's self. Considering the lack of breadth of knowledge from which the deaf individual may draw in order to achieve self-definition, it may be that he or she has a less well-developed self-esteem than do other hearing referent groups. In conclusion, the present findings may suggest that deaf students are less in need of experiences which seek to foster positive attitudes toward the self in a structured environment (e.g., the classroom), than they are in need of diversified experiences which will enable them to achieve a greater complexity of understanding about themselves. A test of this position, however, will require further research.

References

Blanton, R. L., & Nunnally, J. C. Semantic habits and cognitive style processes in the deaf. Journal of Abnormal and Social Psychology, 1964, 68, 397-402.

Brunschwig, L. A study of some personality aspects of deaf children. Contributions to Education (No. 687). New York: Teachers College, Columbia University, 1936.

Cochran, W. G., & Cox, G. M. Experimental design (2nd Ed.). New York: Wiley, 1957.

Craig, H. A. A sociometric investigation of the self-concept of the deaf child. American Annals of the Deaf, 1965, 110, 456-478.

Crites, J. O. Test reviews: Tennessee Self Concept Scale. Journal of Counseling Psychology, 1965, 12, 330-331.

Ebel, R. L. Estimation of the reliability of ratings. Psychometrika, 1951, 16, 407-424.

Fitts, W. H. Tennessee Self Concept Scale: Manual. Nashville, Tenn.: Counselor Recordings and Tests, Department of Mental Health, 1965.

Green, W. B., & Shepherd, D. C. The semantic structure in deaf children. Journal of Communication Disorders, 1975, 8, 357-365.

James, W. Principles of psychology (Vol. 1). New York: Holt, 1890.

Levine, E. S. Youth in a soundless world: A search for personality. Washington Square, New York: New York University Press, 1956.

Levine, E. S. The psychology of deafness. New York: Columbia University Press, 1960.

Lewis, M. M. Language and personality in deaf children. London: National Foundation for Education Research in England and Wales, 1968.

Manis, J. G., & Meltzer, B. N. Symbolic interaction: A reader in social psychology (2nd Ed.). Boston: Allyn & Bacon, 1972.

Mead, G. H. Mind, self, and society. Chicago: University of Chicago Press, 1934.

Meadow, K. P. Toward a developmental understanding of deafness. Journal of Rehabilitation of the Deaf, 1968, 2, 1-18.

Myklebust, H. R. The psychology of deafness: Sensory deprivation, learning, and adjustment. New York: Grune & Stratton, 1960.

Schuldt, W. J., & Schuldt, D. A. A review of recent personality research on deaf children. In E. P. Trapp & P. Himelstein (Eds.), Readings on the exceptional child (2nd Ed.). New York: Appleton-Century-Crofts, 1972.

Sotomayer, M. Language, culture, and ethnicity in developing self-concept. Social Casework, 1977, 58, 195-203.

Sussman, A. E. An investigation into the relationship between self concepts of deaf adults and their perceived attitudes toward deafness. Unpublished doctoral dissertation, New York University, 1973.

Tiegs, E. W., & Clark, W. W. California Achievement Tests: Manual. Monterey, Calif.: California Test Bureau, 1957.

Walter, G. G. Performance in English requires competence in syntax and vocabulary plus experience. Teaching Institute Newsletter (Rochester Institute of Technology), 1977, 2(2), 4-5.

Appendix

TENNESSEE

SELF-CONCEPT SCALE

Introduction

To give you a better education, it is important for us to learn some things about our students. The purpose of this questionnaire is to gather some information about how you think of yourself.

The sentences in this booklet are for you to use to say how you think of yourself. It is very important that you answer every question. It is also important for you to know that there are NO right or wrong answers. These papers will NOT be graded. Therefore, everybody's answer is okay and you should try to answer each statement as you really see yourself and not what you think is the "best" or the "most desirable" answer. It is very important that you answer honestly.

The information from this questionnaire will be used to plan educational activities to best meet your individual needs. However, your actual answers to the statements are CONFIDENTIAL. They will not be placed in any of your files. They will not be given to any of your instructors or family without your permission. The information that you give to us will be seen by only a few research people here at NTID. They will analyze the information and make some general suggestions about how courses and activities here need to be improved so that they are more meaningful for everyone.

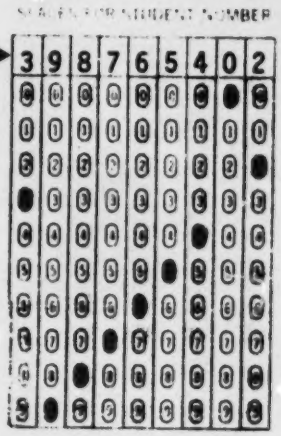
Again, we are asking that you answer each question as honestly as you can. We know that some of the questions may be a little confusing, and we will answer any questions which you may have about them. Therefore, if there are any questions which you feel you do not understand, please raise your hand and someone will help you. Please turn to the next page for specific INSTRUCTIONS.

Instructions

On the RIT computer answer sheet, fill in the information requested below. Use only the pencil provided to you.

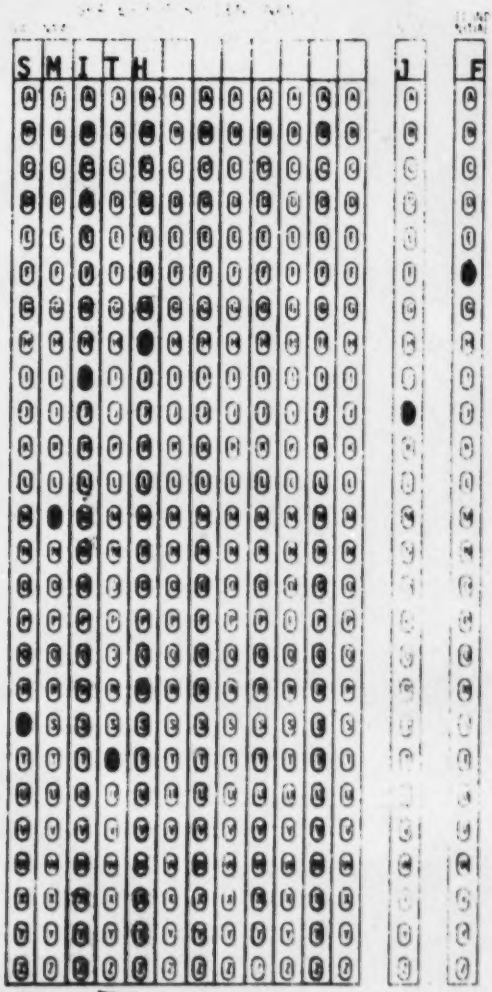
Social Security Number

Example: If your Social Security number is 398-76-5402, you would mark that information in the box labeled Spaces for Student Number.



Name

Example: If your name is John F. Smith, you would mark that information in the box for student's name.



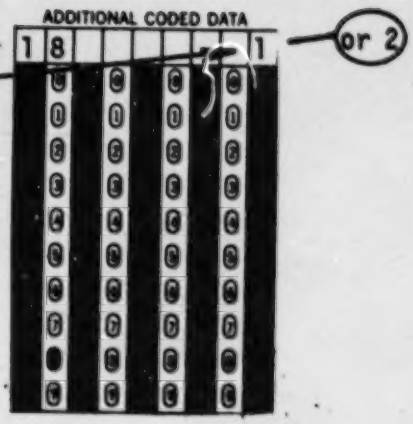
Additional Coded Data

In the first 2 columns in this block, write your age.

In the last column in this block, write 1 if you are male or write 2 if you are female.

Example: If you are 18 years old, you would write 18 here.

If you are male, write 1.
If you are female, write 2.



For each of the sentences in this booklet, you may choose one (and only one) of the five answers listed below:

Answers:	Always false	Almost always false	Partly false and partly true	Almost always true	Always true
	A	B	C	D	E

You will find these answers repeated at the top of each page in the booklet to help you remember them.

Example: If you were asked to respond to the statement "I brush my teeth every day," you would mark letter:

(A) Always false	IF you never brush your teeth
(B) Almost always false	IF you brush 1 or 2 days a week
(C) Partly false and partly true	IF you brush 3 or 4 days a week
(D) Almost always true	IF you brush 5 or 6 days a week
(E) Always true	IF you brush your teeth every day

If you decide to change any of your answers, please be careful to erase completely. The computer cannot read more than one answer to a question.

Remember to raise your hand if you have any questions. Now turn to the next page and begin.

Answers:	Always false	Almost always false	Partly false and partly true	Almost always true	Always true
	A	B	C	D	E

1. I have a healthy body.

2. I am an attractive person.

3. I consider myself a sloppy person.

4. I am a decent sort of person.

5. I am an honest person.

6. I am a bad person.

7. I am a cheerful person.

8. I am a calm and easy going person.

9. I am a nobody.

10. I have a family that would always help me in any kind of trouble.

11. I am a member of a happy family.

12. My friends have no confidence in me.

13. I am a friendly person.

14. I am popular with men.

15. I am not interested in what other people do.

16. I do not always tell the truth.

17. I get angry sometimes.

Answers:	Always false	Almost always false	Partly false and partly true	Almost always true	Always true
	A	B	C	D	E

18. I like to look nice and neat all the time.

19. I am full of aches and pains.

20. I am a sick person.

21. I am a religious person.

22. I am a moral failure.

23. I am a morally weak person.

24. I have a lot of self-control.

25. I am a hateful person.

26. I am losing my mind.

27. I am an important person to my friends and family.

28. I am not loved by my family.

29. I feel that my family doesn't trust me.

30. I am popular with women.

31. I am mad at the whole world.

32. I am hard to be friendly with.

33. Once in a while I think of things too bad to talk about.

34. Sometimes, when I am not feeling well, I am cross.

Answers:	Always false A	Almost always false B	Partly false and partly true C	Almost always true D	Always true E

35. I am neither too fat nor too thin.

36. I like my looks just the way they are.

37. I would like to change some parts of my body.

38. I am satisfied with my moral behavior.

39. I am satisfied with my relationship to God.

40. I ought to go to church more.

41. I am satisfied to be just what I am.

42. I am just as nice as I should be.

43. I despise myself.

44. I am satisfied with my family relationships.

45. I understand my family as well as I should.

46. I should trust my family more.

47. I am as sociable as I want to be.

48. I try to please others, but I don't overdo it.

49. I am no good at all from a social standpoint.

50. I do not like everyone I know.

51. Once in a while, I laugh at a dirty joke.

Answers:	Always false	Almost always false	Partly false and partly true	Almost always true	Always true
	A	B	C	D	E

52. I am neither too tall nor too short.

53. I don't feel as well as I should.

54. I should have more sex appeal.

55. I am as religious as I want to be.

56. I wish I could be more trustworthy.

57. I shouldn't tell so many lies.

58. I am as smart as I want to be.

59. I am not the person I would like to be.

60. I wish I didn't give up as easily as I do.

61. I treat my parents as well as I should (Use past tense if parents are not living).

62. I am too sensitive to things my family say.

63. I should love my family more.

64. I am satisfied with the way I treat other people.

65. I should be more polite to others.

66. I ought to get along better with other people.

67. I gossip a little at times.

68. At times I feel like swearing.

Answers:	Always false	Almost always false	Partly false and partly true	Almost always true	Always true
	A	B	C	D	E

69. I take good care of myself physically.

70. I try to be careful about my appearance.

71. I often act like I am "all thumbs".

72. I am true to my religion in my everyday life.

73. I try to change when I know I'm doing things that are wrong.

74. I sometimes do very bad things.

75. I can always take care of myself in any situation.

76. I take the blame for things without getting mad.

77. I do things without thinking about them first.

78. I try to play fair with my friends and family.

79. I take a real interest in my family.

80. I give in to my parents. (Use past tense if parents are not living)

81. I try to understand the other fellow's point of view.

82. I get along well with other people.

83. I do not forgive others easily.

84. I would rather win than lose in a game.

Answers:	Always false	Almost always false	Partly false and partly true	Almost always true	Always true
	A	B	C	D	E

85. I feel good most of the time.

86. I do poorly in sports and games.

87. I am a poor sleeper.

88. I do what is right most of the time.

89. I sometimes use unfair means to get ahead.

90. I have trouble doing the things that are right.

91. I solve my problems quite easily.

92. I change my mind a lot.

93. I try to run away from my problems.

94. I do my share of work at home.

95. I quarrel with my family.

96. I do not act like my family thinks I should.

97. I see good points in all the people I meet.

98. I do not feel at ease with other people.

99. I find it hard to talk with strangers.

100. Once in a while I put off until tomorrow what I ought to do today.

TENNESSEE
SELF-CONCEPT SCALE

Partial
Questionnaire

Answers:	Always false	Almost always false	Partly false and partly true	Almost always true	Always true
	1	2	3	4	5

82. I get along well with other people.

84. I would rather win than lose in a game.

53. I don't feel as well as I should.

33. Once in a while I think of things too bad to talk about.

34. Sometimes, when I am not feeling well, I am cross.

46. I should trust my family more.

50. I do not like everyone I know.

63. I should love my family more.

66. I ought to get along better with other people.

67. I gossip a little at times.

80. I give in to my parents. (Use past tense if parents are not living.)

31. I am mad at the whole world.

16. I do not always tell the truth.

56. I wish I could be more trustworthy.

57. I shouldn't tell so many lies.

92. I change my mind a lot.

37. I would like to change some parts of my body.

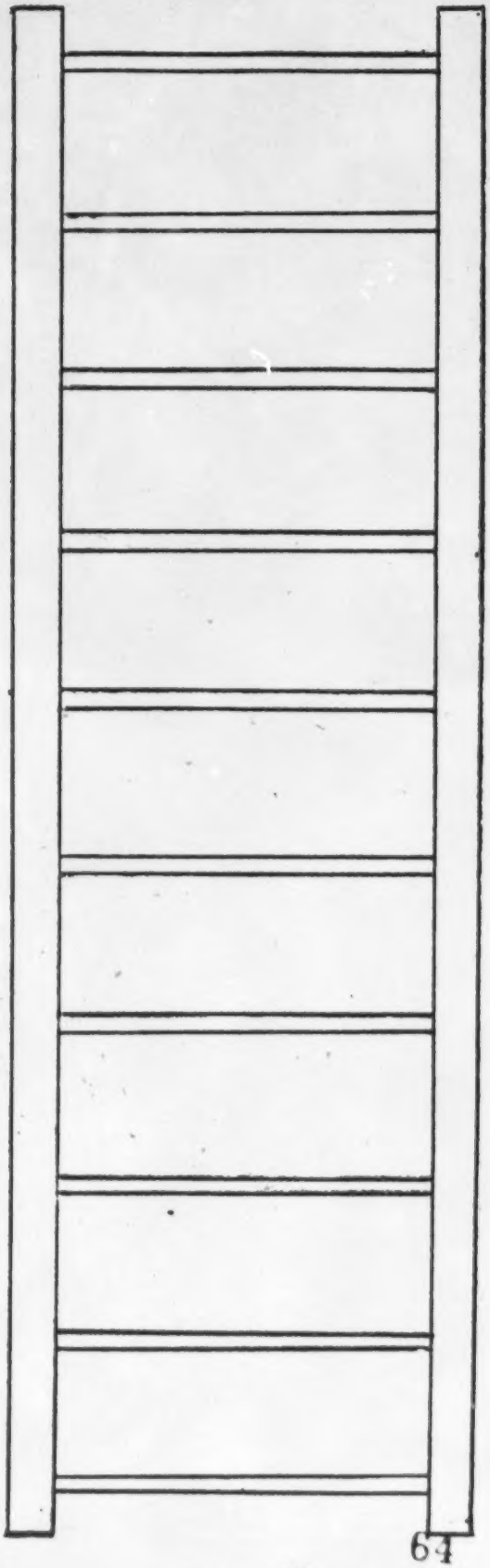
Answers:	Always false	Almost always false	Partly false and partly true	Almost always true	Always true
	1	2	3	4	5

21. I am a religious person.

40. I ought to go to church more.

65. I should be more polite to others.

THE SELF-CONCEPT LADDER



Positive

How good do you feel about yourself?

Negative